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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/320,950 05/27/99 GLOVER

J 2797.004

EXAMINER

IM62/0426

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ART UNIT

PAPER NUMBER

1723

DATE MAILED:

04/26/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

## Office Action Summary

Application No.

09/320,950

Applicant(s)

GLOVER, JOHN N.

Examiner

David L. Sorkin

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1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 November 1999.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) 22-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some \* c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) \_\_\_\_\_.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

### Attachment(s)

- 14) ☒ Notice of References Cited (PTO-892)
- 15) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 16) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 17) ☒ Interview Summary (PTO-413) Paper No(s) 3.
- 18) ☐ Notice of Informal Patent Application (PTO-152)
- 19) ☐ Other:

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## DETAILED ACTION

### *Examiner's Comment*

1. It is requested that the applicant provide any additional information known concerning IDS cite no. DT, "Criterion; Top Bed Catalysts and Support", such as the date published and how this document was obtained. Is it part of a larger document? This document appears quite relevant to the instant application.
2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-21, drawn to a filtering medium, classified in class 210, subclass 510.1.
  - II. Claim 22-47, drawn to a method of contacting an organic stream, classified in class 210, subclass 800.

The inventions are distinct, each from the other because of the following reasons:

3. Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus could remove contaminants from a stream which is not organic, such as stream of water or air.
4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

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5. Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group I, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Ben Tobor on 11 April 2000 a provisional election was made with traverse to prosecute the invention of the filter medium, claims 1-21. Affirmation of this election must be made by applicant in replying to this Office action. Claims 22-47 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Objections***

7. Claim 16 is objected to because of the following informalities: "alumina" is listed twice in the "group consisting of statement". Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Claim 1: The meaning of the word "trisoid" is unclear. A full text search of all US patents since issued since 1976 found no instance of the word being used. Three dictionaries were consulted and the word was not found. No definition was found in the specification

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11. Claim 5: An elliptical cross-section selected from the group consisting of ellipses and circles is claimed. Since circles are not elliptical, the claim is indefinite, as it is unclear whether circles are within the scope of the claim.

***Claim Rejections - 35 USC § 102***

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1-3, 6, 8-9, and 14-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Hung (DE 35 39 195).

14. Claim 1: Hung ('195) discloses a filtering medium comprising a plurality of ceramic units at least some of which have a plurality of openings and at least some of the openings are ellipses (see fig. 3 and the Derwent abstract).

15. Claim 2: The units of Hung ('195), discussed above with regard to claim 1, have a thickness of about 0.125 to 1.5 inches (Derwent abstract; note 1 in. = 25.4 mm).

16. Claim 3: The units of Hung ('195), discussed above with regard to claim 1, have closed plane shaped cross-section configuration, each having a width of about 0.25 in. to 3 in. at the widest point (see fig. 1-3; Derwent abstract).

17. Claim 6: The units of Hung ('195), discussed above with regard to claim 1, have a fluted surface (see fig. 3).

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18. Claim 8: The units of Hung ('195) have about 20 to 70 percent void area (page 11, lines 5-8).

19. Claim 9: The units of Hung ('195), discussed above with regard to claim 1, have about a 200-500 sq. ft./cu. ft. packing factor (Derwent abstract; note 1/ cm = 30.48 sq. ft./cu. ft.).

20. Claim 14: In the units of Hung ('195), discussed above with regard to claim 1, a Group VI-B metal is impregnated (page 14, lines 19-38; Derwent abstract).

21. Claim 15: In the units of Hung ('195), discussed above with regard to claim 1, a Group VIII metal is impregnated (page 14, line 19 to page 15, line 18; Derwent abstract).

22. Claim 16: The units of Hung ('195), discussed above with regard to claim 1, are formed of a ceramic which contains a porous inorganic oxide selected from the group consisting of alumina, silica, silica-alumina, magnesia, titania (page 14, lines 19-32; Derwent abstract).

23. Claim 17: The units of Hung ('195), discussed above with regard to claim 1, contain metal oxide selected from the group consisting of titanium, tin, lead, zirconium, ruthenium, tungsten, yttrium, nickel, magnesium, calcium, aluminum, silicon, or boron (page 14, line 19 to page 15, line 18; Derwent abstract).

***Claim Rejections - 35 USC § 103***

24. Some claims are rejected under U.S.C. 103 rather than 102 because it is unclear what is being claimed, as discussed above with regard to U. S. C. 112, especially concerning the meaning of trisoid.

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25. Claims 4-5, 7, and 10-13 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hung ('195).

26. Claim 4: The medium of Hung ('195) is discussed above with regard to claim 1. It is stated that the cross-section can be inscribed in a rectangle with each side in the range 1/8 to 3 in. (page 9, lines 8-25; Derwent abstract). While the shape is rounded off from a rectangle, it is considered that it would have been obvious to one of ordinary skill in the art to make the cross-section rectangular.

27. Claim 5: The medium of Hung ('195) is discussed above with regard to claim 1. A generally elliptical cross-section with minor axis from 1/4 to 2 in. and major axis from 3/8 to 3 in. is disclosed (fig. 3, page 9, lines 8-25).

28. Claim 7: The medium of Hung ('195) is discussed above with regard to claim 1. An irregularly shaped surface (due to rib; see fig. 3 and Derwent abstract) is disclosed.

29. Claim 10: The medium of Hung ('195) is discussed above with regard to claim 1. Ceramic units comprising a catalyst including porous alumina and a group VI-B metal are also disclosed (page 14, lines 19-38; Derwent abstract). Although it is not explicitly stated that this is in the form of a coating, it is considered that it would have been obvious to one of ordinary skill in the art to have made the catalyst in the form of a coating.

30. Claim 11: In the medium of Hung ('195), discussed above with regard to claim 10, molybdenum is disclosed as a possible group VI-B metal (page 14, line 36).

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31. Claim 12: The medium of Hung ('195) is discussed above with regard to claim 1. Ceramic units comprising a catalyst including porous alumina and a group VIII metal are also disclosed (page 14, line 19 to page 15, line 18; Derwent abstract). Although it is not explicitly stated that this is in the form of a coating, it is considered that it would have been obvious to one of ordinary skill in the art to have made the catalyst in the form of a coating.

32. Claim 13: In the medium of Hung ('195), discussed above with regard to claim 12, nickel or cobalt is disclosed as a possible group VIII metal (page 15, line 1).

33. Claim 21: The medium of Hung ('195) is discussed above with regard to claim 1. Units made of zeolite are disclosed (page 14, line 28). Although zeolites L, X, or Y are not disclosed it is considered that it would have been obvious to one of ordinary skill in the art to select one of these zeolites.

34. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hung ('195) in view of Whitman (US 5,399,535).

35. Claim 18: The medium of Hung ('195) is discussed above with regard to claim 1. Hung ('195) fails to disclose a ceramic filter containing a metal nitride. Whitman ('535) teaches units containing a metal nitride selected from the group consisting of titanium, zirconium, tungsten, silicon or boron (claim 6). It is considered that it would have been obvious to one of ordinary skill in the art to make units of Hung ('195) contain a metal nitride of Whitman ('535) because Hung ('195) teaches variations in what metals are compound with (see Derwent abstract).



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36. Claim 19: The medium of Hung ('195) is discussed above with regard to claim 1. Hung ('195) fails to disclose a ceramic filter containing a metal carbide. Whitman ('535) teaches units containing a metal carbide selected from the group consisting of titanium, zirconium, tungsten, silicon or boron (claim 7). It is considered that it would have been obvious to one of ordinary skill in the art to make units of Hung ('195) contain a metal nitride of Whitman ('535) because Hung ('195) teaches variations in what metals are compound with (see Derwent abstract).

37. Claim 20: The medium of Hung ('195) is discussed above with regard to claim 1. Hung ('195) fails to disclose a ceramic filter containing a metal boride. Whitman ('535) teaches units containing a metal nitride selected from the group consisting of titanium, zirconium, or tungsten (claim 8). It is considered that it would have been obvious to one of ordinary skill in the art to make units of Hung ('195) contain a metal nitride of Whitman ('535) because Hung ('195) teaches variations in what metals are compound with (see Derwent abstract).

38. Claims 1, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joulin et al. (US 5,895,572).

39. Claim 1: Joulin et al. ('572) discloses a filtering medium comprising a plurality of ceramic units at least some of which have a plurality of openings and at least some of the openings are trisoids (fig. 1-3).

40. Claim 4: The units of Joulin et al. ('572) are disclosed to have hexagonal cross-sections (fig. 3).

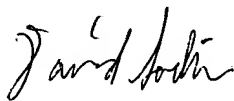
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41. Claim 5: The units of Joulin et al. ('572) are disclosed to have circular cross-sections having diameters ranging from 0.25 to 3 in. (fig. 1 and 2; claim 10).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Sorkin whose telephone number is 703-308-1121. The examiner can normally be reached on 7:30 - 5:00 Mon.-Thur., Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 703-308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7718 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



David Sorkin

April 17, 2000



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